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## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<b>(51) International Patent Classification <sup>6</sup> :</b> <b>C12N 15/16, C07K 14/575, A61K 38/22,</b> <b>C12N 15/70, 1/21 // (C12N 1/21, C12R</b> <b>1:19)</b>	<b>A1</b>	<b>(11) International Publication Number:</b> <b>WO 97/24440</b> <b>(43) International Publication Date:</b> 10 July 1997 (10.07.97)
<b>(21) International Application Number:</b> PCT/US96/20718 <b>(22) International Filing Date:</b> 19 December 1996 (19.12.96)  <b>(30) Priority Data:</b> 08/579,494                      27 December 1995 (27.12.95)      US 08/667,184                      20 June 1996 (20.06.96)              US  <b>(60) Parent Application or Grant</b> (63) Related by Continuation US    08/667,184 (CIP) Filed on                                      20 June 1996 (20.06.96)  <b>(71) Applicant (for all designated States except US):</b> GENENTECH, INC. [US/US]; 460 Point San Bruno Boulevard, South San Francisco, CA 94080 (US).  <b>(72) Inventors; and</b> <b>(75) Inventors/Applicants (for US only):</b> DE SAUVAGE, Frederic, J. [BE/US]; 166 Beach Park Boulevard, Foster City, CA 94404 (US). LEVIN, Nancy [US/US]; 900 Ashbury Street #D, San Francisco, CA 94117 (US). VANDLEN, Richard, L. [US/US]; 1015 Haynes Road, Hillsborough, CA 94010 (US).	<b>(74) Agents:</b> DREGER, Ginger, R. et al.; Genentech, Inc., 460 Point San Bruno Boulevard, South San Francisco, CA 94080-4990 (US).  <b>(81) Designated States:</b> AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, ARIPO patent (KE, LS, MW, SD, SZ, UG), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).  <b>Published</b> <i>With international search report.</i> <i>Before the expiration of the time limit for amending the</i> <i>claims and to be republished in the event of the receipt of</i> <i>amendments.</i>	
<b>(54) Title:</b> OB PROTEIN DERIVATIVES HAVING PROLONGED HALF-LIFE  <b>(57) Abstract</b>  The present invention concerns long half-life derivative of the obesity protein OB. The invention specifically concerns OB protein-immunoglobulin chimeras and polyethylene glycol (PEG)-OB derivatives, which have extended half-life as compared to the corresponding native OB proteins. The invention further relates to methods for appetite and/or weight reduction and for treating other physiological conditions by using the long half-life derivatives of OB.		